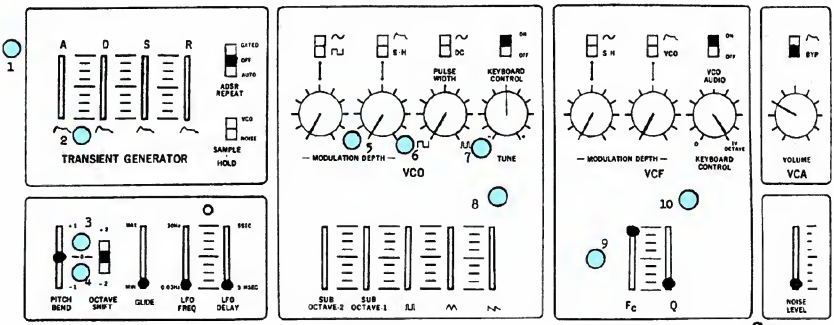
the kitten synthesizer

by OCTAVE Electronics Inc.



TRIMMER LOCATIONS

1. Keyboard Current
2. ADSR Attack Time
3. Octave Transpose Cal.
4. Pitch Bend Cal.
5. VCO Volts/Octave
6. VCO Range
7. VCO Initial Pulse Width
8. VCO Triangle Symmetry
9. VCA Control Rejection
10. VCF Volts/Octave

TRIMMER	ADJUSTMENT	PROCEDURE
1	KEYBOARD CURRENT	1. Monitor the CONTROL VOLTAGE output (ring of the TO SLAVE output jack) with a digital voltmeter. 2. Adjust the KEYBOARD CURRENT TRIMMER for a difference of exactly 3.000 volts between the highest and lowest keys depresses on the keyboard.
6	VCO RANGE	1. Place the KEYBOARD CONTROL switch in the ON position. 2. Turn up the VCO Sawtooth slider. 3. Set the VCO TUNE controls to the 12 o'clock position. 4. Pin A2 on the keyboard. 5. Adjust the VCO RANGE TRIMMER until the frequency of VCO is approximately 440 Hz.
5	VCO V/OCT	1. Place the KEYBOARD CONTROL switch in the ON position. 2. Pin high C on the keyboard. 3. Using the VCO FREQUENCY controls, tune VCO Reference Frequency until zero beat. 4. Depress low C and adjust the VCO V/Oct Trimmer the frequency of VCO is exactly three octaves below that of Reference Frequency. At this point, zero beat will occur. 5. Repeat step 2, 3, and 4 until no further adjustment is necessary.
3	OCTAVE TRANSPOSE	1. Leave the KEYBOARD CONTROL switch in the ON position. 2. Pin High C. 3. Tune VCO and Reference Frequency to zero beat. 4. Depress C2. 5. Place the OCTAVE Switch in the +2 position. 6. Adjust the OCTAVE TRANSPOSE TRIMMER for zero beat between VCO1 and Reference Frequency.
4	PITCH BEND	1. Repeat steps 1, 2 and 3 for the OCTAVE TRANSPOSE adjustment. 2. Depress C3. 3. Place the PITCH BEND slider in the +1 position. 4. Adjust the PITCH BEND TRIMMER for zero beat, between VCO1 and Reference Frequency.
7	VCO INITIAL PULSE WIDTH	1. Turn up the VCO  slider and turn all other audio sources fully off. 2. Check that PULSE WIDTH control is fully off. 3. Monitor the synthesizer output with an oscilloscope. 4. Adjust the VCO INITIAL PULSE WIDTH TRIMMER for 50% duty cycle.

TRIMMER	ADJUSTMENT	PROCEDURE
8	VCO TRIANGLE SYMMETRY	1. Turn up the VCO /\/\ slider and turn all other audio sources fully off. 2. Monitor the synthesizer output with an oscilloscope. 3. Adjust the VCO TRIANGLE SYMMETRY TRIMMER until the waveform is symmetrical.
2	ADSR ATTACK ADJ.	1. Place the "A" and "S" sliders of the ADSR fully up, with the "D" and "R" sliders fully down. 2. Bring up the VCO Sawtooth slider and turn all other audio sources fully off. 3. Check that ADSR REPEAT switch is in the OFF position. 4. Turn up the VCO MODULATION CONTROL corresponding to the switch with the ADSR ⌐\ position fully clockwise. Be sure that this switch is in the ADSR ⌐\ position. 5. Place the OCTACE switch in the -2 position and the PITCH BEND control in the -1 position. 6. Depress C2 and adjust the ADSR TRIMMER for a smooth transition from the ATTACK to the SUSTAIN Level. This will be evident as a rising pitch that smoothly levels off as a key is held down.
10	VCF V/OCT	1. Turn all audio sliders fully OFF. 2. Bring up "Q" control so that VCF oscillates. 3. Turn up the VCF KEYBOARD CONTROL to maximum (1V/OCT) 4. Pin A3 on keyboard. 5. Using the "Fc" Control, adjust the VCF V/OCT TRIMMER for 440 Hz. 6. Repeat Steps 5 and 6 until no further adjustment is necessary.
9	VCA CONTROL REJECT	1. Connect an oscilloscope to the high audio output. 2. Turn up the VCA VOLUME to maximum. 3. Place the VCA Switch in the ⌐\ (ADSR) position. 4. Bring all audio slider, "Fc" and "Q" controls all the way down. 5. Bring the "S" slider of the ADSR up fully with all other ADSR sliders set to minimum. 6. place the ADSR REPEAT switch in the AUTO position 7. Bring up the LFO FREQUENCY slide to maximum. 8. Be sure that the VCF MODULATION controls are fully off and no keys are pinned down. 9. Adjust the VCA CONTROL REJECT TRIMMER for maximum output.